

## Syllabus 2024-2028

Direction of studies: *Experimental and Computational Biophysics, Medical Physics*

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

**Direction of studies: *Condensed Matter Physics***

<b>Disciplines &amp; Activities</b>	<b>Semester I</b>		<b>Semester II</b>		<b>Examination type</b>	<b>ECTS</b>
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	<b>Sem. I</b>	<b>Sem. II</b>	<b>Sem. III</b>	<b>Sem. IV</b>	<b>Sem. V</b>	<b>Sem. VI</b>	<b>Sem. VII</b>	<b>Sem. VIII</b>	<b>Examination type</b>	<b>ECTS</b>
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

**Direction of studies: *Atomic and Nuclear Physics, Elementary Particles, Astrophysics and Applications***

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

**Direction of studies: *Theoretical and Computational Physics***

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

**Direction of studies: *Physics of Atmosphere and Earth – Renewable Energy Sources***

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

Direction of studies: *Optics, Spectroscopy, Plasma, Lasers*

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

**Direction of studies: *Educational Physics***

Disciplines & Activities	Semester I		Semester II		Examination type	ECTS
	Hours course	Hours seminar	Hours course	Hours seminar		
<i>Advanced training program</i>						
Theoretical and experimental physics I	8				E	6
Fundamental physical processes I	8				E	6
Ethics and academic integrity *	14				V	3
Theoretical and experimental physics II			8		E	6
Fundamental physical processes II			8		E	6
Methodology of scientific research and statistical data processing *			4		C	3
<b>Total hours and ECTS</b>	<b>30</b>		<b>20</b>			<b>30</b>

<i>Scientific research program</i>	Sem. I	Sem. II	Sem. III	Sem. IV	Sem. V	Sem. VI	Sem. VII	Sem. VIII	Examination type	ECTS
Scientific report 1	x								C	6
Research activity and scientific works preparation	x								V	4
Scientific report 2		x							C	6
Research activity and scientific works preparation		x							V	4
Research project		x							V	10
Research activity and scientific works preparation			x						V	10
Scientific research reports 1			x						C	20
Research activity and scientific works preparation				x					V	10
Scientific research reports 2				x					C	20
Research activity and scientific works preparation					x				V	10
Scientific research reports 3					x				C	20
Research activity and scientific works preparation						x			V	10
Scientific research reports 4						x			C	20
Research activity and scientific works preparation							x		V	10
Scientific research reports 5							x		C	20
Writing and editing the doctoral thesis								x	V	30
<b>Total ECTS</b>										<b>210</b>
<b>Grand total ECTS</b>										<b>240</b>

\* Common course for all directions of studies

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